

the same liquid can be used for the working liquid of the heat pipe and of the generator.

In the Claims

Please delete claims 1-6 and replace them with the following:

7. A process for producing electrical energy from thermal energy comprising the steps of:
supplying thermal energy to a heat pipe containing a working fluid and a capillary insert
to evaporate the working fluid in a vaporizer section of the heat pipe;

directing the resulting vapor flow through the heat pipe to a condenser section of the heat
pipe where the vapor is condensed and the resulting condensate returns to the vaporizer section
via the capillary insert;

entraining liquid droplets of an electrostatic generator by means of the vapor flow from
the vaporizer section of the heat pipe, the electrostatic generator having a liquid working medium
to supply the liquid droplets, a solid working medium for charges separation, and a pick-up
electrode within the condenser section of the heat pipe;

passing the vapor entrained with the liquid droplets by the solid working medium to
cause separation of the electrostatic charges between the solid and liquid working media;

displacing of the resulting charged liquid droplets-working medium under the action of
external forces caused by the kinetic energy of the molecules of the vapor flow, wherein the
external forces perform work against the Coulomb forces; and

passing the liquid droplets-working medium past the pick-up electrode to pick up electric
charges that are mechanically displaced by the external forces against the Coulomb forces to
generate electrical energy from the thermal energy.

8. The process of claim 7, wherein said electrostatic generator also has a first external electrode
connected to said solid working medium and a second external electrode connected to said pick-up
electrode.

9. The process of claim 8, wherein the pick-up electrode is a grid.

10. The process of claim 9, wherein the solid working medium comprises a second grid through which the vapor entrained with liquid droplets passes.
11. The process of claim 7, wherein a diaphragm of separates the vaporizer section from the condenser section to create an area of maximum flow velocity.
12. The process of claim 11, wherein the solid working medium is located within the heat pipe substantially at the position of the maximum flow velocity.
13. The process of claim 7, wherein the liquid droplets are recovered and fall by gravity into a loop return and are returned to be entrained by means of the vapor.
14. The process of claim 7, wherein the liquid droplets are recovered through a loop return containing a capillary insert and are returned to be retained by means of the vapor.
15. The process of claim 7, wherein the same liquid is used as the fluid in the heat pipe and as the working liquid medium of the generator.
16. The process of claim 7, wherein the thermal energy is solar energy.

In the Abstract:

Please add the following Abstract as a separate page after the claims:

ELECTROGASDYANAMIC METHOD FOR GENERATION ELECTRICAL ENERGY

Abstract of the Disclosure

A process is provided for producing electrical energy from thermal energy in which charges are separated between two working media triboelectrically or electrostatically, the charges are moved away from one another by displacement of the working media under the

action of external gas flow forces. In the process, these external forces perform work against the Coulomb forces, and the charges are routed onto electrodes. The process steps are carried out within the inside volume of a heat pipe, with charge separation and charge displacement taking place using the directed gas flow within the heat pipe. The gas flow entrains a liquid medium and routes it past the other working medium for charge separation and displacement. An application of the present invention is in the use of solar energy.